

# (19) United States

## (12) Patent Application Publication (10) Pub. No.: US 2021/0155507 A1 Kamen et al.

May 27, 2021 (43) **Pub. Date:** 

### (54) SYSTEMS, METHODS, AND APPARATUSES FOR PRODUCING AND PACKAGING **FLUIDS**

(71) Applicant: **DEKA Products Limited Partnership**,

Manchester, NH (US)

(72) Inventors: Dean Kamen, Bedford, NH (US); Hans E. Johnson, Tewksbury, MA (US); Thaddeus J. Hughes, Manchester, NH (US); Michael J. Havnes, Manchester,

NH (US); Margaret B. Bradley, Manchester, NH (US); Robert H. Lawler, JR., Manchester, NH (US); Gregory J. Hurley, Windham, NH (US); Keller Waldron, Manchester, NH (US); Jeremy S. Dube, Alton Bay, NH (US)

(21) Appl. No.: 17/032,795

(22)Filed: Sep. 25, 2020

### Related U.S. Application Data

(60) Provisional application No. 62/939,862, filed on Nov. 25, 2019, provisional application No. 62/939,855, filed on Nov. 25, 2019, provisional application No. 62/939,870, filed on Nov. 25, 2019.

#### **Publication Classification**

(51) **Int. Cl.** C02F 1/44 (2006.01)B65B 3/26 (2006.01) (52) U.S. Cl. CPC ........... C02F 1/441 (2013.01); C02F 2307/10 (2013.01); C02F 2209/40 (2013.01); **B65B** *3/26* (2013.01)

#### (57)**ABSTRACT**

A system for producing and packaging fluid may comprise a water distillation device. The system may further comprise a mixing circuit coupled to an output of the water distillation device and including a source of concentrate. The mixing circuit may include a plurality of flow controllers configured to adjust the flow of fluid through the mixing circuit so as to generate a preset fluid. The system may further comprise an enclosure including an antechamber and a packaging compartment. The system may further comprise a reservoir dispenser in the packaging compartment having a feed plate and a housing block. The reservoir dispenser may include a bias member which urges the feed plate toward the housing block. The system may further comprise a filling station in the packaging compartment including a filling nozzle coupled to the mixing circuit. The system may further comprise a sealing station in the packaging compartment having a ram and a sealing member dispenser. The system may further comprise a quarantine repository in the packaging compartment having a plurality of reservoir holders. The system may further comprise a labeler in the packaging compartment. The system may further comprise an output chute from the packaging compartment to an exterior of the enclosure.

